treating said metal borohydride powder with an alkali solution to produce a metal borohydride alkali solution.

14. The process according to claim 13 wherein synthesizing a carrier powder for proton H comprises the steps of:

forming a mixture of a (suitable) metal that is capable of forming hydrides with hydrogen with about 10 to 50wt% of a hydrogen storage alloy;

mechanically pulverizing said mixture;

mechanically mixing the resulting pulverized mixture with about 10 to 100 wt% of suitable alkali compounds; and

subjecting the resulting mixture to water vapor at less than one atmosphere for 5 to 48 hours to produce a proton H carrier powder.

15. The process according to claim 13 wherein synthesizing a carrier powder for proton H comprises the steps of:

forming a mixture of a (suitable) metal with about 1 to 10 wt% carbon black coated with a metal selected from the group consisting of platinum, palladium and mixtures and alloys thereof; and

mechanically pulverizing said mixture.

16. The process according to claim 13 wherein bonding hydrogen to said proton H carrier powder comprises subjecting said proton H carrier powder to hydrogen gas at a pressure of about 1 to 50 atmospheres at a temperature from ambient to about 400°C for about 5 to 48 hours so that hydrogen is carried by said carrier powder.

17. The process according to claim 13 wherein producing a metal borohydride powder from said proton H carrier powder comprises mixing a suitable quantity of said proton H carrier powder with a non-aqueous metal boron oxide or borax and pulverizing the resulting mixture for about 5 to 48 hours under hydrogen gas at a pressure of about 1 to 50 atmospheres so that a metal borohydride powder is produced.

18. The process according to claim 13 wherein treating of said metal borohydride powder with an alkali solution comprises adding said metal borohydride powder to an alkali solution having a concentration of from about 0.1 to 1 wt% to saturate said metal borohydride powder; and

filtering out precipitates, leaving a metal borohydride alkali solution.

19. A process for synthesizing substantially pure metal borides which comprises the steps of:

synthesizing a carrier powder for proton H;

bonding hydrogen to said carrier powder;

producing a metal borohydride powder from said carrier;

dissolving said borohydride powder with a suitable solvent;

filter precipitates; and

evaporate said suitable solvent to leave substantially pure metal borohydride

20. The process according to claim 19 wherein synthesizing a carrier powder for proton H comprises the steps of:

forming a mixture of a suitable metal that is capable of forming hydrides with hydrogen with about 10 to 50wt% of a hydrogen storage alloy;

mechanically pulverizing said mixture;

mechanically mixing the resulting pulverized mixture with about 10 to 100 wt% of suitable alkali compounds; and

subjecting the resulting mixture to water vapor at less than one atmosphere for 5 to 48 hours to produce a proton H carrier powder.

21. The process according to claim 19 wherein synthesizing a carrier powder for proton H comprises the steps of:

forming a mixture of a suitable metal with about 1 to 10 wt% carbon black coated with a metal selected from the group consisting of platinum, palladium and mixtures and alloys thereof; and

mechanically pulverizing said mixture.

22. The process according to claim 19 wherein bonding hydrogen to said proton H carrier powder comprises subjecting said proton H carrier powder to hydrogen gas at a pressure of about 1 to 50 atmospheres at a temperature from ambient to about 400°C for about 5 to 48 hours so that hydrogen is carried by said carrier powder.

23. The process according to claim 19 wherein producing a metal borohydride powder from said carrier comprises mixing a suitable quantity of said proton H carrier powder with a non-aqueous metal boron oxide or borax and pulverizing the resulting mixture for 5 to 48 hours under hydrogen gas at a pressure of about 1 to 50 at a pressure of up to about 50 atmospheres so that a metal borohydride powder is produced.

24. The process according to claim 19 including forming a substantially pure metal borohydride by the further steps of dissolving said metal borohydride powder into a liquid that can dissolve metal borohydrids;

filtering the resulting solution; and

evaporating the resulting liquid to obtain substantially pure metal borohydride.

25. The process of synthesizing metal borohydrides which comprises the steps of:

forming a mixture of a metal that is capable of forming hydrides with hydrogen with about 10 to 50wt% of a hydrogen storage alloy;

mechanically pulverizing said mixture;

mechanically mixing the resulting pulverized mixture with about 10 to 100 wt% of (suitable) alkali compounds;

subjecting the resulting mixture to water vapor at less than one atmosphere for 5 to 48 hours to produce a proton H carrier powder ;

subjecting said proton H carrier powder to hydrogen gas at a pressure of about 1 to 50 atmospheres at a temperature from ambient to about 400°C for about 5 to 48 hours so that hydrogen is carried by said carrier powder;

mixing a suitable quantity of said carrier powder with metal boron oxide or borax and pulverizing the resulting

mixture for 5 to 48 hours under hydrogen gas at a pressure of from about 1 to 50 atmospheres so that a metal borohydride powder is produced;

adding said metal borohydride powder to an alkali solution having a concentration of from about 0.1 to 1 wt% to saturate said metal borohydride powder; and

filtering out precipitates, leaving a metal borohydride alkali solution.

26. The process of synthesizing substantially pure metal borohydride which comprises the steps of:

forming a mixture of a suitable metal that is capable of forming hydrides with hydrogen with about 10 to 50wt% of a hydrogen storage alloy;

mechanically pulverizing said mixture;

mechanically mixing the resulting pulverized mixture with about 10 to 100 wt% of suitable alkali compounds;

subjecting the resulting mixture to water vapor at less than one atmosphere for 5 to 48 hours to produce a proton H carrier powder ;

subjecting said proton H carrier powder to hydrogen gas at a pressure of about 1 to 50 atmospheres at a temperature from ambient to about 400°C for about 5 to 48 hours so that hydrogen is carried by said carrier powder;